



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,474	11/14/2000	Anil Raj Duggal	RD-28,259	9029

6147 7590 06/04/2003

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH CENTER  
PATENT DOCKET RM. 4A59  
PO BOX 8, BLDG. K-1 ROSS  
NISKAYUNA, NY 12309

EXAMINER

VU, JIMMY T

ART UNIT	PAPER NUMBER
----------	--------------

2821

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/712,474

Applicant(s)

DUGGAL ET AL.

Examiner

Jimmy T Vu

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-29 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 46-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2821

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-3 and 46-51 have been considered but are moot in view of the new ground(s) of rejection.

Despite applicant's disagreement, the examiner decides to provide new rejection as below in view of organic light-emitting diodes and the OLEDs arranged to spell out at least one letter or depict an image.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 2821

3. Claims 1-3 and 46-51 are rejected under 35 U.S.C. 102(e) as being anticipated by Singh (U.S. Patent number 6,259,838 B1).

Regarding claim 1, Singh discloses a light emitting device (10) comprising:

a plurality of organic light emitting diode (OLED) modules (150) (Figs. 3-6) electrically connected in series, each of said OLED module comprises an organic layer (130) (Fig. 4, col. 8, lines 5-38), which emits light when activated; and

an alternating current (AC) power source (170) (Figs. 3-6, col. 7, line 60) electrically connected to and providing an AC voltage directly to the plurality of OLED modules (Fig. 1), said voltage and said current inherently having a waveform characteristic (Figs. 1-9, col. 7, lines 10-6, col. 8, lines 1-65).

Regarding claim 2, Singh discloses a light emitting device comprising:

a substrate (20) (Fig. 2, col. 5, line 30); and

a plurality of organic light emitting diode (OLED) series groups (Fig. 4) provided on the substrate (20), each OLED series group comprising a plurality of OLED modules (150), the OLED modules of each OLED series group electrically connected in series, wherein each OLED modules comprises an organic layer that emits light when activated, and the OLED modules emit light upon application of an AC voltage supplied directly thereto, and the AC voltage has a waveform characteristic (Figs. 1-9, col. 5, line 30, col. 7, lines 10-6, col. 8, lines 1-65).

Regarding claim 3, Singh discloses the light emitting device further comprising:

Art Unit: 2821

at least one first conducting line (222) provided on the substrate, the at least one first conducting line electrically connected to a first end of each OLED series group; and

a second conducting line (224) provided on the substrate, the second conducting line electrically connected to a second end of each OLED series group opposite the first end (Fig. 7, col. 14, lines 43-67).

Regarding claims 46 and 47, Singh discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (Figs. 1-9, col. 3, lines 12-45).

Regarding claim 48, Singh discloses a display comprising a plurality of organic light emitting diode (OLED) modules (150) arranged to spell out at least one letter or depict an image (Figs. 1-9, col. 2, lines 1-45),

wherein the plurality of OLED modules is grouped into a plurality of series groups, and the OLED modules of each series group are electrically connected in series (Figs. 1-7).

Regarding claim 49, Singh discloses the display wherein each OLED modules has the shape of a letter or image (Figs. 1-9, col. 3, lines 12-55).

Regarding claim 50, Singh discloses a display comprising a plurality of organic light emitting diode (OLED) modules (150) arranged to spell out at least one letter or depict an image (Figs. 1-9, col. 2, lines 1-45), wherein the plurality of OLED modules are electrically connected in parallel.

Art Unit: 2821

Regarding claim 51, Singh discloses a method of making a display comprising: providing a substrate (20); and a plurality of organic light emitting diode (OLED) modules (150) arranged to spell out at least one letter or depict an image (Figs. 1-9, col. 2, lines 1-45),

***Allowable Subject Matter***

4. Claims 4-28 are allowed.

None of the prior art teaches the converting circuit that converts an applied AC voltage with the sinusoidal waveform to the converted voltage waveform and applies the converted voltage waveform to the at least one first and the second conducting lines.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Vu whose telephone number is (703) 306-5451. The examiner can normally be reached on Monday to Friday from 9:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or (703) 308-7724.

Application/Control Number: 09/712,474

Page 6

Art Unit: 2821

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Jimmy Vu

May 28, 2003

  
TAN HO  
PRIMARY EXAMINER